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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,183	03/13/2001	David A. Fulton	07445.0009	9203

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EXAMINER

JONES, JUDSON

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,183

Applicant(s)

FULTON ET AL.

Examiner

Judson H Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese reference 2-119673.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4, 6-8, 11-15, 19, 21, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference 2-119673 in view of Searle. Japanese reference 2-

119673 discloses a solenoid assembly having a plurality of two coils as shown in figure 1 but does not disclose 3 coils. However, one of the purposes of multiple pull-in coils of the Japanese reference is to make the pull-in coils use the same diameter of wire as is used for the holding coil. In the Japanese reference that meant two pull-in coils connected in parallel. For starters with higher holding and pull-in coil ratios, three pull-in coils would be more appropriate.

In regard to claims 3, 7, 12, 14 and 15, the Japanese reference discloses a plurality of coils but does not disclose details of how the coils are made. In figure 2 of the Japanese reference a wire is shown which has been wound down the length of a coil holder a number of times and also wound back up to form separate pull-in coils and a separate holding coil but when the step of cutting the wire to form three separate coils was performed is unknown. However, Searle teaches separating the steps of winding the coils and cutting the coil ends in column 4 lines 15-22. Since Searle and the Japanese reference are both from the same field of endeavor, it would have been obvious for one of ordinary skill in the art to have utilized the coil cutting method of Searle in order to speed up the coil making process.

In regard to claims 4, 8 and 13, see the Japanese reference figure 1.

In regard to claims 19 and 25, see Searle column 5 lines 47-51. Since the Japanese reference does not disclose any specific connection between the leads of pull-in coils 3 and 4, it would have been obvious for one of ordinary skill in the art to have utilized the soldering method taught by Searle.

Claims 5, 9, 16, 22, 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference 2-119673 in view of Searle and Gresley et al. (cited by Applicant). Japanese reference 2-119673 as modified by Searle discloses the solenoid assembly

but does not disclose a diameter for the single wire. However, Gresley et al. discloses a diameter of a hold-in coil wire as being about 0.61 mm and a pull-in coil wire as being about 1.22 mm. Since the Japanese reference as modified by Searle does not disclose any diameter for the wire, it would have been obvious for one of ordinary skill in the art to have utilized the teaching of Gresley et al., who discloses a pull-in coil wire of the diameter claimed by Applicant.

In regard to claim 32, see Searle column 5 lines 47-51. Since the Japanese reference does not disclose any specific connection between the leads of pull-in coils 3 and 4, it would have been obvious for one of ordinary skill in the art to have utilized the soldering method taught by Searle.

Claims 17, 18, 20, 23, 24, 26, 30, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference 2-119673 in view of Searle and Gevas et al. Japanese reference 2-119673 as modified by Searle discloses the solenoid assembly with the plurality of pull-in coils but does not disclose tying, twisting or crimping the leads together. However, Gevas et al. teaches that connecting wires together by soldering, twisting, crimping or otherwise splicing them are equivalents. Since Gevas et al. and Japanese reference 2-119673 as modified by Searle are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized tying, twisting or crimping the wires together in order to element the cost of solder and thus make the device less expensive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ *JHJ*
July 13, 2002

[Signature]
NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800